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EFFECTIVENESS OF A CENTRALIZED COLLEGE RECRUITMENT  
PROGRAM IN ATTRACTING. (U) ARMY MISSILE COMMAND  
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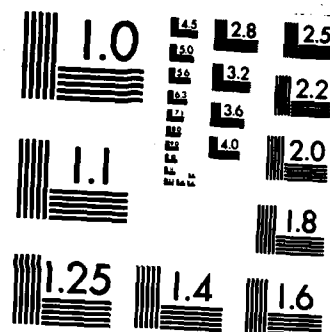
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EFFECTIVENESS OF A CENTRALIZED COLLEGE RECRUITMENT  
PROGRAM IN ATTRACTING ENGINEERS INTO THE WORK FORCE  
AT THE US ARMY MISSILE COMMAND

R. Bryan Kennedy, Ed.D.  
Civilian Personnel Office  
US Army Missile Command

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**U.S. ARMY MISSILE COMMAND**

*Redstone Arsenal, Alabama 35898-5000*

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<p>The centralized college recruitment program at the US Army Missile Command for scientists and engineers, grades GS-5 and GS-7, was established at the beginning of Fiscal Year (FY) 1982. Review of traditional Government procedures and the increased employer demand for research personnel leading to the establishment of the centralized program are discussed. Recruitment results are compared for the first 3 years of the centralized recruitment program and the 3 years prior to its establishment. Results of the comparison indicate this program to be significant in the successful recruitment of engineers at the US Army Missile Command.</p>			
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## I. INTRODUCTION

The Federal Government employed 2,068,334 persons as of March 31, 1983, according to the US Office of Personnel Management Central Personnel Data File (1). Considering all Federal Agencies as one employer, the Federal Government is by far the Nation's largest employer.

Many people, when reading about the Department of Defense, envision the men and women in uniform but fail to consider the thousands of civilians employed by the Department of Defense. Approximately one million employees, of the entire civilian Federal work force, were employed by the Department of Defense as of March 31, 1983. The Department of Army had 355,252 employees as of March 31, 1983.

Civilian employees are engaged in a wide variety of activities in support of the Armed Forces. A work force integrated with military and civilian employees places both manager and employee in a unique position, since an employee will often work side by side with someone who is guided by a totally different personnel program. Some of the obvious differences are unions, dress, wages, and benefits. These differences, and others which are discussed later, coupled with shifting national priorities pose a unique challenge to Department of Defense managers. Effective and innovative management techniques must be applied in order to accomplish the mission. Managers must utilize a personnel management system that recognizes the complementary nature of the integrated work force instead of each group as a separate entity.

Occupational categories within the Federal Government mirror categories within the larger society. The Federal Government, the Nation's largest and most widely dispersed employer, requires utilization of employees from across the occupational spectrum, i.e., laborer to advanced scientist and engineer. Shortages of certain type employees such as medical doctors, engineers, scientists, etc. in the larger society will also reflect as shortages to Federal recruiters.

The transformation of American society since the turn of the century has been breathtaking. The United States has progressed from a basically agrarian society to a dynamic industrial society whose level of education and standard of living is higher than was ever thought possible. The Scientific and technical advancements in society and accompanying world changes stagger the imagination. The transformation of the United States society from an agrarian to a highly complex scientific society has brought tremendous changes in what is expected from the Federal work force. With the present level of technology, the free world cannot rely on the relatively simple weapons of World War II or the Korean War.

The United States has expended considerable effort and large sums of money for the research, development, and production of new and highly sophisticated weapons, since the 1960s. This has been necessitated by the rapid advancement of technology, increased military buildup of potential adversaries, and political instability in many parts of the world. During this same time, private industry in the United States has found it necessary to expand their research capabilities and monetary outlays for modernization

to remain competitive in worldwide industrial production and trade. These influences have combined to create a demand for research engineers and scientists. In the past, many innovative ideas and inventions were products of small, individually owned laboratories or shops. The present emphasis by industry for research in highly specialized areas, usually requiring complex and costly facilities combined with monetary incentives offered to research engineers and scientists, has practically eliminated the small, independent researcher.

In the past, Federal recruiters and personnel managers frequently found that the Federal Government was at a disadvantage when competing with private industry for the recruitment of engineers and scientists. In an attempt to improve the Government's ability to be competitive, the Office of Personnel Management (OPM) approved an increased rate of pay, grades GS-5 through GS-12 for engineers and scientists; however, despite the increased rate of pay, positions often went unfilled for long periods of time. OPM made an additional effort to improve recruitment and eliminate traditional recruitment delays by approving direct hire authority. This action allowed Federal Agencies to by-pass the OPM registers and deal directly with applicants in filling certain hard-to-fill engineering and scientist positions. Although the advanced in-hire pay rate and the ability to deal directly with the applicant greatly improved recruitment for these positions, the problem of attracting quality candidates remained a problem.

Responding to the problem of recruiting engineers, the US Army Missile Command made a decision to initiate a centralized engineering recruitment program by visiting certain colleges to attract engineering graduates. This research measures the success of the centralized recruitment program in bringing a larger number of GS-5 and GS-7 engineers into the work force. For the first 3 years of the centralized college recruitment program, recruitment actions for engineering positions grades GS-5 and GS-7 were analyzed and compared to the same series (grades GS-5 and GS-7) for the 3 years prior to the program's implementation.

## II. US Army Missile Command

The US Army Missile Command (MICOM), located on Redstone Arsenal, is a 39,000 acre military reservation in Madison County, Alabama, responsible for the total life-cycle management of all Army missile systems. Total life-cycle management includes research, development, production management, procurement, quality assurance, maintenance, and logistics support to United States troops and foreign governments that have purchased Army missile systems. According to Kennedy (2), \$4,834 billion were appropriated in Fiscal Year 83 for procurement of supplies, missile hardware, and services needed to perform the US Army Missile Command's mission. In excess of 8,000 civilians and approximately 1,000 military employees are assigned to this command.



### III. Personnel Management within the Federal Government

At the beginning of the Nation's history, the Army filled specialized needs by recruiting directly from the civilian population utilizing whatever contract terms were available. According to Kennedy (3), political and personal connections often determined the Federal work force, and each change in National administration brought a large-scale turnover in Federal employees. This system of recruitment became known as the "spoils system." In 1801, President Thomas Jefferson took control of a system staffed almost entirely by members of the opposition who enjoyed lifetime tenure. Jefferson was able to replace many of the appointees and bring his own friends and followers into government. In general, he is given credit for initiating the spoils system in the Federal Government. By the 1830s, the spoils system was accepted as a way of life. Under Andrew Jackson, the spoils system was perfected and ruled supreme until 1883.

As a result of widespread corruption in President Grant's administration, civil service reform became a visible national issue in the 1870s. A National Civil Service Reform League was organized in August 1881. While the membership was small, an effective propaganda effort was carried on by the use of monographs and pamphlets. These writings appealed primarily to ethical and moral principles rather than to economy or efficiency (4).

President James Garfield's assassination by a disappointed Federal job seeker was the catalyst that produced the passage of the Civil Service Act in 1883. The news media's subsequent attack on the spoils system culminated in the passage of the Civil Service Act. This act established the Civil Service Commission (the name was changed in 1978 to Office of Personnel Management), and was designed to bring a merit system to Government service and replace political patronage. This program was not an overnight success. Some researchers blame this initial lack of success on an emphasis which insured that Government Agencies refrain from certain activities instead of insuring that effective, positive measures were applied.

The Office of Personnel Management is responsible for the overall administration of the Federal personnel program. OPM conducts operations at headquarters offices in Washington, D.C., in 10 regional offices and in area offices. According to the Comptroller General's Report (5), OPM, during Fiscal Year 78, spent about \$35.4 million on examination and referral of applicants, processed 1.6 million applications, and referred 1.1 million applicants to Federal Agencies from which 152,771 selections were made.

A major requirement of the Civil Service Act of 1883 was to hold open, competitive examinations for applicants for competitive service appointments. These examinations were to be practical in character and, as far as possible, relate to matters that fairly tested the relative capacity and fitness of an applicant for the appointment sought.

Many positions in the Federal service are filled through the administration of assembled exams whereby applications are filed when OPM is opened to receive applications. Applicants are instructed to report to examination centers where batteries of exams are administered, testing their skill and knowledge in certain areas. Certain other occupational

groups require the submission of an application for employment which is rated and assigned a numerical score based on information submitted. These groups do not actually take a written test. From time to time, there has been criticism of the examination procedures utilized, and OPM has changed examination and referral procedures. Assigning numerical scores based on a written test plus experience and education and rating the applicant based on unassembled examination procedures without a written test have been, for many years, the basic process of examination and referral.

OPM has increased in-hire rates for engineers and scientists in grades GS-5 through 12 because of the difficulty in attracting applicants for these positions. In an attempt to attract engineers and scientists into the Federal Government, the requirement that they apply through OPM was relaxed. Engineers and scientists in an occupational series designated hard-to-fill are allowed to apply directly to a Federal Agency, as they have been for the past few years.

#### IV. Recruitment of Engineers at the US Army Missile Command

The largest career program at the US Army Missile Command is the Engineer and Scientist Career Program with 1,491 members as of December 1984. It is recognized that all career programs, e.g., procurement, supply, comptroller, etc., make valuable contributions to mission requirements and that the overall mission could not be accomplished without the varied mix of skills. However, it is postulated that, unless the research and development mission is adequately performed, the overall mission is doomed to failure. To accomplish that part of the mission, it is necessary to recruit and retain high quality engineers and scientists. According to the Department of Defense Laboratory Management Task Force (6), numerous National studies to identify shortages have been conducted, but their findings and conclusions often conflict. Some studies perceive shortages throughout the country while others indicate that there is no current shortage and no reason to expect future shortages. No known studies sought to determine the effectiveness of a centralized college recruitment program at the GS-5 and GS-7 level for a highly complex technical organization such as the US Army Missile Command.

#### V. DISCUSSION

Although an increased in-hire rate of pay was approved for engineers and scientists, and a special recruitment authority was granted enabling agencies to direct-hire certain engineering and scientist specialties without going to the OPM register, the US Army Missile Command continued to experience difficulty in attracting a sufficient number of young engineers. While sporadic visits had been made to various colleges during the 1970s in an effort to attract young engineers, no formally structured recruitment program had been developed and utilized.

After careful study, a decision was reached in the Spring of 1981 to institute a formal college recruitment program for engineers and scientists.

The effort was to be coordinated by the Recruitment and Placement Division of the Civilian Personnel Office with technical recruitment assistance from the Army Missile Laboratory of the US Army Missile Command. Selected engineering schools, primarily in Southeastern United States, were to be frequently visited. Occasional visits would also be made to selected engineering schools in other parts of the country.

A decision was made to set aside 50 to 80 entry level positions each year (GS-5 and GS-7) to be utilized for training young college graduates. The recruitment program called for annual and/or semi-annual visits to colleges although employment opportunities might allow the recruitment of only a few graduates. A decision was made that these recruitment visits should continue during austere periods so that faculty and students would be familiar with the US Army Missile Command and its mission.

To determine the effectivity of the college recruitment program in recruiting engineers, data were gathered from the US Army Missile Command's automated data bank. The data covered a 6-year period (Table). The first 3 years of the program included data from October 1981 through September 1984, and the 3 years prior to the implementation of the centralized college recruitment program covered from September 1978 through September 1981.

TABLE. Engineers Recruited in Grades GS-5 and GS-7 FY 79 through FY 84

<u>US Army Missile Command Appointments</u>			
FY 79	FY 80	FY 81	TOTAL
1	3	15	19
FY 82	FY 83	FY 84	TOTAL
37	66	51	154

As the above figures depict, the total number of Engineers and Scientists, grades GS-5 and GS-7, increased from 19 for the 3 years prior to implementation of the centralized college recruitment program to 154 for the first 3 years of the program. This increase of 135 appointments equates to a plus 710 percent. The significant increase in the number of engineers recruited for the MICOM work force, as shown in the Table, indicates the centralized recruitment program to be highly successful; however, the increased recruitment should not be solely attributed to this program.

Pure scientific research and experiments frequently predict the effect of adding an element to another group and verifies these results by retesting. Research on humans and organizations is often confounded by outside or additional forces and circumstances that cannot be controlled. While listing all influences that will confound an experiment is probably

impossible, the following discussion represents a partial attempt to deal with this issue. Campbell (7) lists nine threats to internal validity and six threats to external validity of experimental results. History, a threat to internal validity, is the only threat addressed in this report as it poses the greatest problem to this study. Historical occurrences which may have influenced results of the 6-year period studied are:

- A slow-down in recruitment of Engineers and Scientists by private industry.
- More Engineering and Scientific graduates.
- Change in society's overall attitude toward the Department of Defense.
- The fact that so many spaces (50 to 80) were set aside may have caused managers to focus on the commitment to fill these spaces each year.

## VI. IMPLICATIONS

While it is impossible to accurately deal with all of the forces that confound studies of this nature, it is important to keep in mind that recruitment programs are not conducted in a vacuum or in a test tube, and results are not altogether caused by a specific intervention of a program or change to that program. Without a doubt, positive strides for recruitment of engineers and scientists were accomplished by the development of a strong centralized college recruitment program at the US Army Missile Command. The extent of influence this program had on the increased recruitment success for engineers and scientists cannot be positively concluded, as has been indicated.

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